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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/719,683

11/24/2003

Bob Streefkerk

081468-0306882

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10/03/2008

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EXAMINER

RUTLEDGE, DELLA J

ART UNIT

PAPER NUMBER

2851

MAIL DATE

DELIVERY MODE

10/03/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/719,683	<b>Applicant(s)</b> STREEFKERK ET AL.	
	<b>Examiner</b> Della J. Rutledge	<b>Art Unit</b> 2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3,6-46 and 48-53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-46 and 48-53 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/08</u>   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The references in the Information Disclosure Statement filed on 13 August 2008 have been reviewed.

### ***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1 – 3, 10, 16 -24, 34 – 43, 46, 49, 51 - 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schuster (US Pat. No. 6,417,974, cited by applicant).

Claim 1, 2, 18, 19, 36, 37, 42, 46, 53: Schuster discloses a holding device for an optical element in an objective lithographic apparatus, and discloses the following technical features referring to specification column 3, line 22 to column 4, line 3; figure 6 of the reference 1): the holding device (2,7,8) has a mount that is connected, on the one hand, to the objective (10) and, on the other hand, indirectly to the optical element (1), there being arranged between the mount and the optical element (I) a reinforcing element (2) whose coefficient of thermal expansion corresponds substantially to the coefficient of thermal expansion of the optical element (1). Thus it can be seen, the reference 1 has disclosed all the features of claim 1 of the present application. The joint comprises the inorganic layer 3. Using a glue in the joint would provide further protection by making the joint air-tight. Since providing an air-tight joint in the projection system is used in both dry and wet lithography systems, one of ordinary skill in the art would have been

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motivated to use glue in the joint. The full lithographic system is not shown, but would have the basic components named. One of ordinary skill in the art would have recognized that the teaching can apply to immersion lithography systems as well, since as stated using an air-tight joint in a projection is known in both types of lithography. Also, because of the resolution advantages of an immersion system one of ordinary skill in the art would consider the adaptability of the teaching to an immersion lithography system. Having an immersion lithography system, one of ordinary skill in the art would have provided a seal to control leakage and access of the liquid to certain components and areas of the lithography system.

Claim 6, 7, 25: the joint is made by wringing, a direct bond technique; the wringing is made without heating

Claim 10, 28, 49: the joint is made by wring and is an interaction of clean surfaces

Claim 16, 17, 34, 35, 45, 51, 52: In column 9, line 31, 32, the reference uses the statement "when the lens consists of crystalline material"; implies that other materials may be used for the element to be wrung.

4. Claims 1, 8, 14, 16 - 20, 23, 24, 26, 32 - 37, 42-46, 48 - 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holderer et al. (US Pat. No. 6,392,824).

The reference discloses soldering and optic component to a support in a lithographic system. The optics may be composed of quartz, glass, CaF, etc. The joint has an inorganic adhesion layer 11, claim 24. The joint is heat treated (claims 8, 24). A metal solder is used claim 14. 32, 50, the reference mentions tin, lead, silver. The element is

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a lens, claims 19, 37. The reference cites a Japanese reference that teaches using a metal solder of indium with quartz glass, claim 33. As stated above, one of ordinary skill in the art would be motivated to use the element in an immersion lithography system because of the improved resolution. This reference discloses heating to temperatures less than 200° C.

### ***Response Data***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Della J. Rutledge whose telephone number is (571) 272-2127. The examiner can normally be reached on Mon - Thurs, 6:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on (571) 272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Della J. Rutledge/

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Primary Examiner  
Art Unit 2851

dr  
90/29/2008